

IN THE CLAIMS

Please cancel claim 31 without prejudice.

Please amend the following claims.

17. (twice amended) A method for treating a microelectronic wafer substrate that comprises one or more contact holes, comprising:

- b²
- a) applying a layer of a positive-acting photoresist composition on the microelectronic substrate that comprises one or more contact holes, the photoresist composition comprising a photoactive component and a polymer that comprises 1) groups reactive to crosslinking; 2) photoacid-labile groups; and 3) a thermal acid generator compound;
 - b) exposing and developing the photoresist layer on the substrate to yield a developed photoresist image; and
 - c) thermally treating the developed photoresist layer to induce crosslinking of one or more photoresist components.
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37. (amended) A method for treating a microelectronic wafer substrate that comprises one or more contact holes, comprising:

- b³
- a) applying a layer of a positive-acting, chemically-amplified photoresist composition on the microelectronic substrate that comprises one or more contact holes, the photoresist composition comprising a photoactive component and a polymer that comprises 1) groups reactive to crosslinking; 2) alkyl acrylate photoacid-labile groups; 3) phenolic groups; and 4) a thermal acid generator compound;
 - b) exposing and developing the photoresist layer on the substrate to yield a developed photoresist image; and
 - c) thermally treating the developed photoresist layer to induce crosslinking of one

B3
or more photoresist components.

Please add the following new claims.

39. The method of claim 17 wherein the polymer is substantially free of aromatic groups.
40. The method of claim 17 wherein the polymer is completely free of aromatic groups.
- B4 41. The method of claim 17 wherein the photoacid-labile groups are primary acetal groups.
42. The method of claim 41 wherein the groups reactive to crosslinking are tertiary acetal groups.
43. The method of claim 37 wherein the photoacid-labile groups are primary acetal groups.
44. The method of claim 37 wherein the groups reactive to crosslinking are tertiary acetal groups.

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45. A method for treating a microelectronic wafer substrate that comprises one or more contact holes, comprising:

a) applying a layer of a positive-acting photoresist composition on the microelectronic substrate that comprises one or more contact holes,

the photoresist composition comprising a photoactive component and a polymer that comprises 1) groups reactive to crosslinking, and 2) photoacid-labile groups,

the polymer being substantially free of aromatic groups;

b) exposing and developing the photoresist layer on the substrate to yield a developed photoresist image; and

c) thermally treating the developed photoresist layer to induce crosslinking of one or more photoresist components.

46. The method of claim 45 wherein the polymer is completely free of aromatic groups.

47. The method of claim 45 wherein the photoacid-labile groups are acetal groups.

48. The method of claim 45 wherein the photoacid-labile acetal groups are primary acetal groups.

49. The method of claim 47 wherein the groups reactive to crosslinking are acetal groups.

50. The method of claim 49 wherein the groups reactive to crosslinking are tertiary acetal groups.